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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,732	03/08/2002	Shunpei Yamazaki	12732-093001 / US5582	7335

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EXAMINER

GHYKA, ALEXANDER G

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,732

Applicant(s)

YAMAZAKI ET AL.

Examiner

Alexander G. Ghyska

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
4a) Of the above claim(s) 1-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 48-63 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

ALEXANDER GHYKA
PRIMARY EXAMINER

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Alex Ghyska

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claims 1-47 are withdrawn. Claims 48-63 are under consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 48-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tang et al (US 5,904,961) in view of Sloan et al (Automatic Zone Refiner for Organic Compounds).

The present claims generally call for heating an organic compound provided in a container with a heater; separating an impurity contained in the organic compound by

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using a zone melt; and evaporating a high purity organic compound obtained by separating the impurity to form an organic compound.

Tang et al disclose a method of depositing organic layers in organic light emitting devices, which uses a donor support which is coated with an organic donor material. The donor support is heated to cause the transferable coating of organic donor material to transfer to a position on or over the substrate. See the Abstract. The donor support **24** is advanced from a supply roll **30** and is driven over a spindle **34** and another spindle **36** to the donor roll **32**. Tang et al disclose that in a position between the spindles **34** and **36** is where the coating of the organic donor material **23** is transferred from the support **24** to the light emitting substrate **10**. See column 4, lines 1-10 and Figure 2A. Moreover, Tang et al disclose that the heating station **40** is provided to preheat the donor support prior to its being moved to the transfer position to eliminate volatile contaminants such as water vapor from the donor coating. See column 4, lines 45-50. With respect to Claim 52, Tang et al discloses that crucibles are known to hold the organic donor material in the prior art and could be used to coat the donor support. See Fig 1, column 3, lines 20-25 and column 4, lines 50-60. The donor support can be considered a container as required by the present claims as it contains the organic donor material. As Tang et al discloses that water vapor is removed, the purified organic is not exposed to air. Tang et al discloses the separate phases of heating the organic compound to purify and to transfer on the LED. See Figure 2B.

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Thus, Tang et al discloses all of the present claim limitations with the exception of a zone melt to purify the organic compound .

Sloan et al disclose an automatic zone refiner for organic compounds, and disclose that zone refining involves the repeated passage of a molten zone through an ingot to achieve purification by continuous crystallization from the melt. Moreover, Sloan et al disclose that it is applied to refining organic compounds because of its simplicity and effectiveness in preparing very pure materials. See the first paragraph.

It would have been obvious for one of ordinary skill in the art, at the time of the invention to use the zone melt process of Sloan et al, in the purification and coating of LED process of Tang et al, for its known benefit in producing very pure organic compounds. Sloan et al discloses an effective way for purifying organic compounds, which a practitioner in the art would find obvious to use to purify the organic compounds of Tang et al. The use of a known purification process, for its known benefit, purifying organic compounds is *prima facie* obvious. The degree of purification would simply be a matter of optimization.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander G. Ghyka whose telephone number is (571) 272-1669. The examiner can normally be reached on Monday through Thursday during general business hours.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John F Niebling can be reached on (571) 272-1679. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGG
March 3, 2004

ALEXANDER GHYKA
PRIMARY EXAMINER

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